

REMARKS

The Applicant respectfully requests reconsideration of this application based on the arguments presented below. No claims have been amended, added or cancelled. Hence, claims 1-13 remain pending in this application after the filing of this amendment.

35 U.S.C §102

In the Office action, the Office rejected claims 1-8, 10, and 11-13 under 35 U.S.C. 102(e) for allegedly being anticipated by U.S. Pub. No. 2005/0010653 of McCanne (hereafter “**McCanne**”). The Applicant respectfully disagrees with the Office’s characterization of McCanne and points out several distinctions between the claimed subject matter and the teachings of McCanne.

McCanne relates to a content distribution system involving content peering relationships between content distribution networks. Interdomain anycast routing is used to redirect content requests from one content backbone (autonomous system (AS)) to an affiliated content backbone that advertises the anycast address. McCanne, [0018] – [0123]. Content-peering enables infrastructure to be re-used across multiple independent content distribution networks. Id., [0130]. For content to be distributed across affiliated AS’s that comprises content backbones, the AS’s must advertise their anycast addresses. Id., Fig. 10. Content requests can be redirected from an APAR-DNS to servers of affiliate AS’s who advertise. Id., [0155]. If server load becomes too great at an AS’s server, copies of content are created at the APAR-DNS. Id.

The Applicant acknowledges the Office’s recognition that McCanne does not disclose that at least one of the cache systems comprises at least two cache servers connected in a cluster, and wherein the at least two cache servers are coupled to a switch usable to select from among the at least two cache servers based on a selection policy.

For at least the reasons given below, the Applicant believes the claims are distinguishable over McCanne.

With regard to claim 1, claim 1 recites:

A method of content delivery in a network, comprising:

associating devices in a Domain Name System (DNS) with content server systems located in the network, the content server systems maintaining and serving content of a content provider, each DNS device configured to resolve the name of the content provider to an address for the content server system with which such DNS device is associated;

assigning to the DNS devices a common address, the common address being usable to resolve the name of the content provider such that a request for content of the content provider by a content requestor is sent to the content server system nearest the content requestor;

monitoring one or more load characteristics of one or more of the content server systems in the network;

determining if one or more of the load characteristics exceeds a predefined overload metric; and

for each content server system having a load characteristic that exceeds the predefined overload metric, discontinuing advertising of the content server system by an associated DNS device.

McCanne does not teach or reasonably suggest at least discontinuing advertising of the content server system by an associated DNS device. The Office action cites paragraphs 136, 137, 141, 155, and 164 of McCanne as teaching for each content server system having a load characteristic that exceeds the predefined overload metric, discontinuing advertising of the content server system by an associated DNS device. For convenience, the cited paragraphs are reproduced below:

[0136] Unlike this prior art, the APAR-DNS servers need not be configured with a set of known names that are to be mapped to a candidate set of addresses. Instead, APAR-DNS servers can map an unbounded set of arbitrary names, expressed in a fashion that encodes information about the content request, onto a set of address targets. The targets are configured into the APAR-DNS servers along with attributes that describe their capabilities, administrative constraints, and so forth. The configuration of targets and related attributes can be dynamically modified using an external protocol (an APAR-DNS management protocol).

[0137] In addition, policies are programmed into the APAR-DNS servers to control the mapping of named service requests onto

targets. To properly load balance requests across the service infrastructure and avoid hot spots of network congestion, server load information and network path characteristics between the APAR-DNS servers at the edge of the network (near the client) and the service infrastructure may be fed into the APAR-DNS server from some external data collection process.

[0141] 3) pruning the candidate set based on configured policy, server load measurements, and network path measurements;

[0155] As part of this process, the APAR-DNS servers may maintain state about the location of a piece of content. That is, some *external agent may disseminate explicit location information for given objects to optimize the amount of replication that occurs. Or the APAR-DNS servers may simply remember where they have recently directed clients and continue to direct future requests to the same place to avoid creating unnecessarily redundant copies of content (while monitoring the server load and creating copies only when server load warrants).* (emphasis added).

[0164] Explicit redirection can be combined with APAR-DNS redirection to achieve the best of both approaches. In the description below, we assume an APAR-DNS system is already deployed. If such a system is deployed, rather than return a DNS mapping to a specific server, the APAR-DNS server could return a mapping to an explicit redirector that does fine-grained server-monitoring and load balancing.

Notably, in the above-cited paragraphs, there is no mention of the word “advertise” or any synonym thereof. As such, the above-cited passages do not disclose or reasonably suggest discontinuing advertising under any condition. Importantly, McCanne does mention advertising in *other* passages that are not cited: e.g., [0091], [0123], [0126], [0127], [0129], [0130], [0134], [0148], [0217], [0233]. In every instance, McCanne discloses that advertising anycast addresses enables McCanne’s content-peering arrangement.

McCanne’s system relies upon advertising of anycast addresses in order for content-peering relationships to work. McCanne at [0155] gives two alternatives for responding to a content request at an APAR-DNS: provide a cached copy of the request content, or redirect the requester to a content distribution network that is advertising the associated anycast address. McCanne

does not provide the alternative of discontinuing advertising by an affiliate server. Nor does McCanne suggest discontinuing advertising as an option, because discontinuing advertising would render McCanne's content-peering arrangement inoperable for its intended purpose, which is to provide content-peering across AS's.

Applicant can find no teaching or reasonable suggestion of, "for each content server system having a load characteristic that exceeds the predefined overload metric, discontinuing advertising of the content server system by an associated DNS device" in the portion of McCanne cited by the Office, or in the rest of the reference. As such, Applicant believes that McCanne fails to teach or reasonably suggest all of the elements of claim 1. For at least this reason, claim 1 and its dependent claims, claims 2-9 and 12-13 are distinguishable over McCanne.

With regard to claims 10 and 11, both claims 10 and 11, include limitations similar to claim 1. As such, for at least the reason given for claim 1, Applicant believes that claims 10 and 11 are distinguishable over McCanne.

35 U.S.C §103

In the Office action, the Office rejected claim 9 under 35 U.S.C. 103(a) as allegedly being unpatentable over McCanne in view of U.S. Pub. No. 2005/0010653 of Christensen (hereafter "**Christensen**"). For at least the reasons given below, the Applicant believes the claim 9 is distinguishable over McCanne and Christensen, either separately or in combination.

With regard to claim 9, Claim 9 inherits all the limitations of claim 1. As presently understood by the Applicant Christensen does not teach or reasonably suggest use of at least the following elements of claim 1: (1) monitoring one or more load characteristics of one or more of the content server systems in the network; (2) determining if one or more of the load characteristics exceeds a predefined overload metric; and (3) for each content server system having a load

characteristic that exceeds the predefined overload metric, discontinuing advertising of the content server system by an associated DNS device. As a result, Christensen does not remedy the deficiencies of McCanne with respect to claim 9.

Consequently, the combination McCanne and Christensen is no more relevant to discontinuing advertising of the content server than either taken alone. For at least this reason, claim 9 is neither taught nor suggest by McCanne or Christensen.

CONCLUSION

The Applicant respectfully submits that the rejections have been overcome by the amendment and remark, and that the remaining pending claims are now in condition for allowance. Accordingly, the Applicant respectfully requests that the rejections be withdrawn and that a Notice of Allowance be issued for claims 1-13.

INVITATION FOR A TELEPHONE INTERVIEW

The Examiner is requested to call the undersigned at (303)447-7739 if there remains any issue with allowance of the case.

Respectfully submitted,

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